



# ØBEAT

COLO. SPRINGS,  
COLORADO

MARCH 1970

## SPECIAL ARRL FILM ON AMATEUR RADIO FEATURE OF MARCH MEETING

After a somewhat prolonged period of trying to discover when a print would be available for showing to the PPRAA, Bill King, WØLKD, club president, and Rosemaries Lewis, WAØMNL, finally managed to reserve the film "The World of Amateur Radio," and this will be the feature of the next meeting of the PPRAA, Wednesday, March 11. The meeting, starting at 7:30 p.m., will, as usual, be held at the U. S. Naval Reserve Training Center, Lake and Logan Streets.

The ARRL film, narrated by Bill Lawrence, well-known TV news commentator, and two well known hams---Arthur Godfrey and Barry Goldwater, has been drawing enthusiastic plaudits from both hams and non-hams who have witnessed it either on TV or at club showings.

One sequence of the film shows ham operations during the Alaskan earthquake and tidal wave and another demonstrates the use of some old "spark gap" equipment---familiar to oldtimers in the field of amateur radio but something many of the younger generation of hams have probably never had an opportunity to see.

(Continued on Page 3)

## BILL HASKIN, KØCEN, GETS BANK PROMOTION, PLUG FOR HAM RADIO

Bill Haskin, KØCEN, long time member of the PPRAA, and more familiarly known by many as "Old Penny-Pincher," has stepped up in the banking world.

According to a story in the local papers, of a meeting of the shareholders of the Pikes Peak National Bank Assn., Pres. William C. Henderson of the bank announced that Bill had been advanced to operations officer of the bank.

The portion of the story pertaining to Bill states:

"Haskin has been employed by the bank since 1961, and was with the Colorado Commercial Bank six years prior to joining the Pikes Peak Bank.

"Haskin and his wife, Loral, are parents of four children, a married son living in Denver, and two sons and a daughter, students in the Colorado Springs Public Schools.

"The family are all members of the First Southern Baptists Church and Haskin is treasurer of the Pikes Peak Association of Southern Baptist churches.

"He has long been identified with Amateur Radio Operator's activities within the

(Continued on Page 3)

## ZERO BEAT

Published monthly in the interest of the members of the Pikes Peak Radio Amateur Association., Inc., Colorado Springs, Colo.

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1142 Rainier Drive, Colorado Springs 80910

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The PPRAA meets the second Wednesday of each month in the U. S. Naval Reserve Training Center, Lake and Logan Streetsm starting at 7:30 p. m. All radio amateurs and other interested persons are invited to attend.

Copy Deadline for APRIL ZERO BEAT will be March 24.

## Editorial

HAVE YOU FORGOTTEN TO RENEW?

A check of records shows that as of the time Zero Beat went to press, some 40 of last year's members of the PPRAA had failed to renew their membership for 1970.

While it is true that a small percentage of this may have been due to some of our "military members" having left for assignments elsewhere, by no means can this account for this large number of persons who have failed to renew.

Remember, it costs money to run the club, get out Zero Beat and stage other activities and much of the funds for this must come from member's dues.

There is no need to print the names of those who have forgotten to pay or to use any other means than this to remind them that their membership renewal and dues are needed by the club. Every member who has not paid is aware of that fact.

If you haven't "turned in your green-backs" to the secretary and received your 1970 membership card---how about doing it at the next meeting (which has a program you shouldn't miss) or drop the money in the mail to the secretary. No excuse for not knowing where to send your dues---it is the same address as for Zero Beat which appears on this page.

If you haven't paid your dues--this will

## BOARD OF DIRECTORS

Pres. - Bill King, WØLKD  
Vice Pres. - Dean Jaynes, WAØPHJ  
Secty. - Frank Craw, WØHWH  
Treas. - John Kester, WAØLVL

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Eldon Lewis, WAØERA  
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-o-

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be the last Zero Beat you will receive. Perhaps that will also serve as a reminder.

-o-

## OUR PROFUSE APOLOGIES

It seems we owe one of our advertisers an apology----through someone's error (we will be "noble" and take the blame), the telephone number for the local branch of Lafayette Radio Electronics was one digit off and someone else has been getting a lot of calls that should have gone to Lafayette. (That should be proof that people read Zero Beat ads.)

We apologize and point out that the telephone number listed in this month's Lafayette ad is the correct one to call.

Our advertisers are also doing a great service in helping to publicize PPRAA activities. We understand the extra copies left with them are picked up almost as soon as they are delivered. We've personally had a number of telephone calls from "newcomers" who want to know about the club and learned of it through picking up a Zero Beat at one of our advertisers.

With that kind of service they are performing for the PPRAA, are you reciprocating by patronizing them? Better do so--it's to your advantage and to the advantage of the PPRAA as well.

Remember them--they remember you.

--f rank, WØHWH

**CEN PROMOTION**

(Continued from Page 1)

Pikes Peak Region, owning and operating his own amateur station. He is a member of ARRL, the military affiliate facility - MARS, which handles the transmission and relay of messages from men in service, especially those from overseas points.

"He has been an active member of the local Civil Defense Communication Group, a unit which will be operational in event of emergencies or disasters. The Haskins reside at 1526 Bates Drive."

So it seems Bill not only got himself a nice promotion---at the same time also managed to get in a good plug for amateur radio.

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**PPRAA MEETING**

(Continued from Page 1)

There will be the usual door prizes and coffee break and the opportunity to pay dues for 1970.

The program for the April 8 PPRAA meeting will be provided by Harold Young, of the Army Air Defense Command (ARAD-COM) Information Section. "Hal" will have a slide talk on ARADCOM and its part in the NORAD mission, including present and future weapons systems for the air defense of the continent, including the Safe-

guard ABM system which is now in the news because of Congressional debates on the system and its location and size.

He will also have a film showing the ultrasonic "Sprint" missile, part of the Safeguard ABM system, which travels faster than a rifle bullet, travelling 10,000 feet in the time it takes for two beats of a human heart.

Make plans to attend both these --- you won't want to miss either of them!!!

(From the West Valley Amateur Radio Assn. (Los Gatos, Calif.) "Hetrodyne")

"Congratulations to the members of Pikes Peak Radio Amateur Assn. who so warmly devoted their time to help the family in Colorado Springs communicate with their father in Denver. It's good to note where Hams give up their time to help out a family in need. Good going, fellows and we enjoy your newspaper."

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"Always monitor before transmitting, otherwise you may QRM an emergency. Just because no one is using a frequency at the moment doesn't mean there isn't a brief pause in a QSO or even a pause in an emergency. Monitor and then ASK before transmitting." (CCRC "Circle")

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## R OSIE "S E P O R T I N G S

By Rosemarie Lewis, WAØMNL

The Powder Puff Derby is July 3, 4, and 5 and the PPRAA will play an important part in it, providing communications for the Derby from Colorado Springs. Rhea Allison, K5RDY/0, a PPRAA member, is in charge of the stopover in Colorado Springs, and asked for some help from club members at the February PPRAA meeting. She received some enthusiastic volunteer offers. She is already working on the project and is seriously thinking of entering as a contestant. The gals leave from Monterey, Calif., and fly to Pennsylvania--a total of 2, 759 miles.

-rr-

Enjoyed a fine patch to Jim Bell, W4-OTP, in Louisville, Ky. The Bells are former Colorado Springs residents--while Jim was stationed here in the Army. At that time his call was K3TVX/0. Since his retirement from active Army service they have been making their home in Louisville, where he is employed as systems engineer of the Computer Division of the Friden Division of the Singer sewing Machine Co. His XYL, Mary, does nursing at a local hospital. At the time of the QSO they were expecting a bad ice storm. Jim is active in the Great Lakes, Ky. traffic net and is active in the ham club there. They sent their greetings and best wishes to their friends here.

-rr-

Frank Craw, WØHWH, Zero Beat editor and PPRAA secretary, has been scanning the two Colorado Springs daily papers (without success at the time Zero Beat went to press) after having his picture taken with none other than Mayor T. Eugene McCleary of Colorado Springs. He and two other of the members of the Colorado Central Model Railroad Club presented the mayor with a desk stand with a model of the caboose used by the Colorado Midland Railroad during the early part of this century when the railroad ran from Colorado Springs to Cripple Creek. Frank says he guesses that since he has been on the "other side" of a camera so

long, he must have broken the camera when "Andy" Anderson, Colorado Springs public relations director, took the picture. Frank was luckier on the "business side" of the camera, though---some of the pictures he took of parts of the model railroad system in the Santa Fe Railroad station appeared in both papers along with stories about the four open houses the club had celebrating Colorado Springs Model Railroad Week, February 21 to March 1, proclaimed by Mayor McCleary.

-rr-

The PPRAA has two more "converts" to two meter FM. Larry Lewis, WA6BGG, and XYL Bonnie have a new two meter FM rig. They say there's a lot of activity going on around Livermore, Calif. (If you get tired of it, Larry, ship it home!!!)

-rr-

There's a lot of two meter AM activity around this area--as many as 10 to 15 check in Wednesday and Sunday evenings at 8 p. m. Try 145.35 or anywhere and they'll find you.

-rr-

Doc Cornell, WØMCT, has applied for OBS appointment and hopes to be putting out the ARRL bulletins for the area.

-rr-

SILENT KEY----Charley Page, WØWTN, of Trinidad Colorado, passed away recently.

-rr-

Maurice, WAØYMP, and XYL have readied a camper and are off for a month in Mexico. They will view the total eclipse of the Sun March 7 and will be helping to record it with cameras. They will be camping near Oaxaca, Mexico. Maurice enjoys Astronomy as well as Amateur Radio.

-rr-

John Summers Jr., WAØHHO, is home on leave after completing a second tour in Vietnam. He and YL Lynna, his Oklahoma gal friend, expect to tie the knot in Texas March 7. Then John goes to ZL-land for more U. S. Navy duty.

-rr-

August 16 has been set as our annual picnic with Ed Pompea, KØZPG, in charge.

(Continued on Page 5)

## ORE ROSIE'S REPORTINGS

(Continued from Page 4)

A hamfest, to which all hams in Colorado will be invited, is planned to commemorate the 20th anniversary of the club.

## ADDITIONS TO LIST OF LOCAL HAMS

Burt Bittner, KØWQN, wrote in to remind Zero Beat of three local hams who had been left off the list published in the December and January Zero Beats, so here are three you can add to the list:

Annabelle Meck, KØWZN, and OM Elgin recently enjoyed a flying trip to Maryland to visit Elgin's brother, thereby repaying a 6 year old visit by Elgin's brother.

Oak Stockton, KØROL, has become almost a "traveling salesman," handling "barber shop" affairs in several states---no, not the hair-cutting kind---the singing kind--as one of the leading members of the Society for the Preservation of Barber Shop Quartets (hope I got the right title, Oak.) Anyhow Oak has been active in this "pastime" for the past several years. Perhaps sometime when we're short a program for a meeting he can furnish us with some vocal entertainment---or maybe lead us in singing. hi, hi!

-rr-

Dick Cullen, WBØAFT, and Burt Bittner, KØWQN, have a new SB-220 on the air for some Corona Tests at Kaman Nuclear. Anyone wanting to eyeball this equipment should call Burt or Dick at 473-5880, ext. 348, around 4 p. m.

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WBØAGT Dick Cullen

Peyton, Colo.

WØARW Gerold D. Osborn

Falcon Route, Peyton

KØWQN Burt Bittner,

11415 Hungate Road

(There are additional missing from the list who are members of the club and I intended to get them in this issue of Zero Beat. However, between several medical examinations at Fort Carson Hospital, helping stage four shows by the local model railroad club and trying to hold down my "paying job" the time slipped by. Hope to have them in next month's issue---Editor)

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"For the distaff side, they now have a handle for your pots and pans that tells the temperature in the utensil. I'll take my eggs at exactly--well, what temperature should they be? (DRC "Round Table.")

# LAFAYETTE

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## UNDERSTANDING TRANSISTORS By Jim White, Assoc. Mem. M. E. M. E.

(From the Tulare County (Calif.) Radio Club "Grid Leak"  
via the Central California Radio Council "Circle")

## LESSON 8

## BIASING

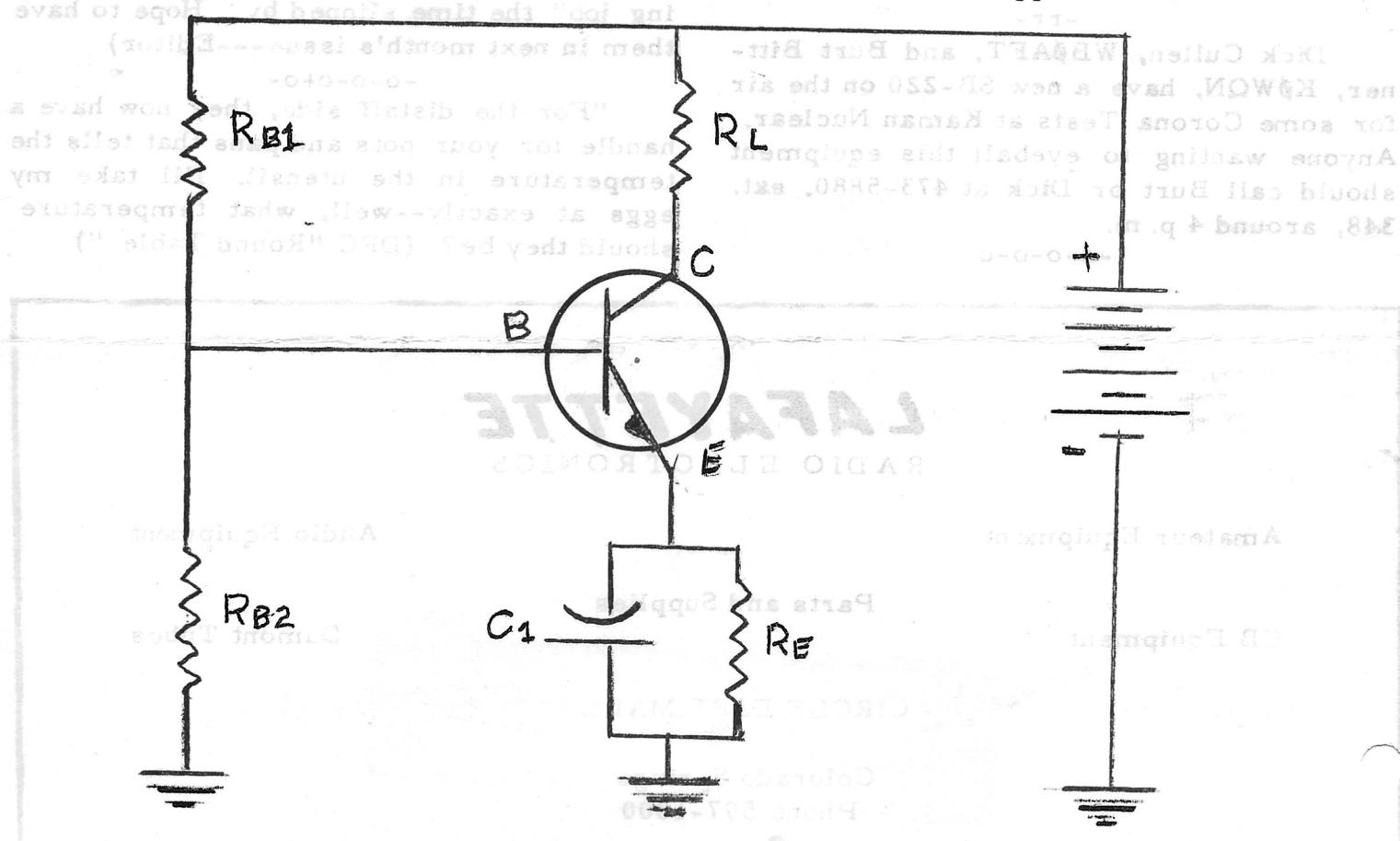
Transistors, in common with vacuum tubes, require bias (base potential) to determine their operating point. The biasing of transistors, however, is somewhat more complex than that required for tube operation. The reason for this is that the transistor bias also provides automatic protection against thermal runaway.

Transistors are temperature sensitive devices. The conduction and also gain of the device increases with temperature. Increased current flow, in turn, produces high temperatures and a progressive thermal runaway condition can develop. Proper biasing techniques produce a DC feedback loop which automatically reduces current

flow when temperature increases.

A common method used to provide thermal stability without objectional loss of gain is by an additional resistor in the emitter circuit. Increase in collector current will also cause increase of emitter current. The increased drop across the emitter resistance effectively reduces the voltage available for base bias by the voltage dividing action of the bias resistor and emitter resistor. Normally the emitter resistor is by-passed with a large capacitor to prevent signal degeneration. This method of obtaining bias is analogous to the biasing of a tube through use of a cathode resistor.

The biasing circuit shown below provides good thermal stability and is suitable for most transistor applications.



## NLIGHTENING BITS FROM OUR EXCHANGE PUBLICATIONS

(From the Mt. Diablo CARRIER, via the Calif. Radio Council CIRCLE)

"When the Indians were running this country 400 years ago, there were no taxes, no national debt, no foreign entanglements, and women did all the work. The white man thought he could improve on a situation like that?"

-o-

(From "The Rambling Reporter" in the Denver Radio Club ROUND TABLE)

"Wondering about the power supply left on the Moon? Well, it is fueled with plutonium-238 and designed to produce 63 watts of electrical power. The spontaneous radioactive decay of the plutonium produces heat which an assembly of 442 lead tellurite thermo-electric elements then converts to 1450 watts of power of which about 63 is usable.

"We have a new member in the carbon family. Glassy carbon. Developed by Lockheed Missile and Space Co., it will withstand a lot of pressure and much heat. It shines like glass and is resistant to chemical attack---even flourine compounds.

"Bell Labs have come up with "Magnetic Bubbles." They foresee their use in computers, memory banks and the like.

Small and easily detected, Bell has already achieved a data rate of 3 million bits per second in a shift register.

"It is reported that the market ICs has been slow. No big rush to get them into TVs or Hi-Fis. Motorola has been of help to the amateur with the HEP line, which means Hobbyist, Experimenter, Professional.

"We now have four channel stereo. It's a kind of surround everybody sort of thing. Do you have a place for eight speakers?

"Strontium carbonate will go into the glass in color TV face plates on picture tubes next year? It has five times the absorption capability as regular glass.

"Did you know you could use low cost epoxy silicon transistors as low voltage zener diodes?

"FM's the thing. FM radios now make up more than half the sales in home radios surpassing AM radios in dollars but not yet in numbers"

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Don't forget to make special plans to be at the next two PPRAA meetings, March 11 and April 8. Both will have features you just won't want to miss. And if you haven't paid your 1970 dues don't forget that the secretary is waiting for you to take care of that very important detail.

See you at the meetings!!!



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1970 ROUCKY MOUNTAIN DIVISION, A. R. R. L. CONVENTION IN ESTES PARK IN JUNE  
(By Rich High, WØHEP, in the Denver Radio Club "The Round Table.")

"The Denver Radio Club will host the 1970 Rocky Mountain Division, A. R. R. L. Convention to be held at the Elkhorn Lodge, in Estes Park, Colo. June 12-14, 1970.

"Ticket reservations will be \$4.00 before June 1 and \$5.00 after June 1. More information and registration forms will be forthcoming. There will be a Saturday evening chuck wagon dinner in addition to the main Sunday luncheon. Please make your dinner reservations early as there will be a limited number of dinner tickets sold. This year, for the first time, you can put your

registration and meals on your Master Charge or Bankamericacard.

"Many activities are being planned to include technical talks, contests and YL activities. The YL activities are being handled by the Colorado YLs.

"For information, contact Rich High, WØHWP, Convention chairman, and listen to the WØOUI bulletins Monday and Wednesday evenings for further developments."

(Note---For those wishing to write to WØHWO, his address is Richard High, 740 Galena St., Denver, Colo. 80010. Watch future issues of Zero Beat for more information on the Convention---we'll print all the information we're able to obtain---Editor)